



# 7

SEQUENCE LISTING

<110> Barbosa, et al

<120> Markers for Evaluating Estrogenic Activity

<130> 10624-051

<140> 09/853,544

<141> 2001-05-10

<160> 19

<170> PatentIn version 3.0

<210> 1

<211> 555

<212> DNA

<213> Homo Sapiens

<220>

<221> modified\_base

<222> (1)..(555)

<223> n = a, c, g or t

<400> 1  
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ggaaatgtgt ataattacag aagaaaacag ggaggactta gtgcagagag gagacgagtg 180  
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tatatattta tatattttac atccaggtat cccagtcac tgtaccattt cccagggaga	300
catgggtgct tccaaggcga gacaggaaag ggtaggcag ggaaggggca ggcacggtgc	360
aggctggggc ttggctcaca gaagctgcag gagcttcagc agctgtaaga gggccccggg	420
ctccgcagac gccaggtact gagnaagaag cagtcctcca gctccacgcc ccgctgcga	480
tccaccgct tctccgcaa cttcatcatc atcagggccc gcttcatgtc gatccagttg	540
tgcagcgtgc gcaca	555

<210> 2

<211> 923

<212> DNA

<213> Homo Sapiens

<220>

<221> modified\_base

<222> (1)..(923)

<223> n = a, c, g or t

<400> 2

tnnnntntg tggtngtgcg gtgggggngg tagggacagt gtacagagtt ccagctcttc	60
tttgattcac ccccttcct cctcctcct tctttcccat tgctacacta aaggagtcag	120
ggctgtgtcc accaatatgc tctgtgacta gcagtcacaa caatttcata cccagccagt	180
cattccggag natttgggat gataatgttc ccattctcag ttctctgtg agaatgtgna	240
tgtcatttga agctctgtgc ctgagtttc atagaagtaa aacaaaaagc aagaattgag	300
actgatcttt tncttgnaag aattcacang taatggataa tgtacaagag atgtggctga	360
ataagagaac tagaacaang acttgaacaa tttncctatg caacactctt tcccatggac	420
aaaggatatcc cacaaagtca tncttcatcg gaggctagtt tgtccaaaga aaactcacat	480
accaatgcaa tagtgacaaa aaaaaattcc tccatgccaa ttcaggaaac agaacgcaag	540
ttgtgcttaa gnccatggtn ggggtgtggga agatgttcca anaccgncac cccttacct	600
cntctatgac tatctncaac ccccngnann ggggctcgnc agtttgntaa aggggttaat	660
taccannagg gggcntgtcc cccagnggt cncttggggn gtgananncn anaaaaccnc	720

tntccattta ccaaacaaan acacntccct gggattattn ggggggttnca ggcttttnag	780
ncannttcca ngcctngnt ctgnccctnn tccnnggttg ggaanccatc ccccnngctc	840
ctgattacca atnccnaat cccnnggtgg ggttgnattc atctctcca aaatgttngt	900
tggnttcggg gggtnaagan ttt	923

<210> 3

<211> 629

<212> DNA

<213> Homo Sapiens

<220>

<221> modified\_base

<222> (1)..(629)

<223> n = a, c, g or t

<400> 3	
cacagggtca cagattcacc aaagctgaaa gggctgagga gctcatggta gcctggggtg	60
acctactctg gagcacggtg tcttccttct aaactgagtg actgtagtac tatctgtgcc	120
tctgatggta ataaaactga caagatgtct aatTTTTTTT taagtaggac caaaggaaaa	180
caagatttag atagtctgac tttgcttttg aacaacagac attgcaagtc aaaattgttg	240
tcaaatttac atatggtaaa tgatgaactt taaaaatgtg tccaggtgtt agatgagttc	300
attagactct tttaatgcta atggctagta cggtttaaac aaaacagcag ttctctgctg	360
caatattccc attgaccact taaatgacca taagtgggtca tttaagaaca tgttagggtt	420
agccctgac tgaatataaa agtgagaaaa gggctacagt gcatttcttg gtaacttaaa	480
ctgagtctctg aagttataat gatccattcg agttcngtga tccttattgg tcctaattgg	540
ggttcccnac cgtattggta cagatgagcc atacgttccc ttggtaccat gtagacatga	600
cttcagatac ccctgaggac ctnccagca	629

<210> 4

<211> 448

<212> DNA

<213> Homo Sapiens

<220>

<221> modified\_base

<222> (1)..(448)

<223> n = a, c, g or t

<400> 4  
tcgacgctna gaggaggacag ggagcggggc ttttgtctgt tgggtctccct ggactgaaga 60  
gaggggagaat agaagcccaa gactaagatt ctcaaaatgg tttattaccc agaactcttt 120  
gtctgggtca gtcaagaacc gtttccaaac aaggacatgg agggaaggct tcctaaggga 180  
agacttcctg tcccaaagga agtgagccgc aagaagaacg atnagacaaa cgctgcctcc 240  
ctgactccac tgggcagcag tgaactccgc tccccaaaga tcagttacct ccactttttt 300  
taatcgtaac acctccattt gtattacata tgggtgatgg gtattgatga ggtcatggta 360  
tcatatatgg gatttttttc tgtgtaaata atcaagtata agaagaaact atgggactct 420  
gagccttgct ttagagaant tacagtgg 448

<210> 5

<211> 460

<212> DNA

<213> Homo Sapiens

<220>

<221> modified\_base

<222> (1)..(460)

<223> n = a, c, g or t

<400> 5  
ccgtcactak gctgaccgct gcaactacca gactttctgt gctgatggag cagatgagag 60  
acgctgtcgg cattgccagc ctggsawttt ccgatgccgg gacragaagt gcgtgtatga 120  
gacrtgggtg tgcgawgggc acccaaactg tgcggacggc artgatsagt gggactgctc 180

ctatgttctg ccccgcaagg tcattacagc tgcagtcatt ggcagcctas tgtgcggmct	240
gctcctgktc atcgccctgg gctgcacctg cwwgctctat gccattcgca cccaggagta	300
cagcatcttt gccccctct cccggatgga ggctgagatt gtgcatcaac aggcaacccc	360
ttcctacggg cagctcattg cccaagggtgc catcccacct gtagaatact ttcctacaga	420
gaatcctaata gataactcag tgctggggcaa cctgcgttct	460

<210> 6

<211> 446

<212> DNA

<213> Homo Sapiens

<220>

<221> modified\_base

<222> (1)..(446)

<223> n = a, c, g or t

<400> 6	
atcacaatcc agtgcaaaca taatcacaaa ttgcatctct ggcacatctg gtgcttttag	60
cttctgcaca aattcaacat ggtaaccctc acagcattct agggcataaa aggggtcaagt	120
acaataaata tccacygtaa gtgggtcataa ggaagaaaat caccctgcca cacagtcaga	180
atgttttccc ttcagctckc cctaccgttg agaagcgcta taaaaggagg ctttakcstc	240
ctctaaagtt taccattata ttcactaaaa gccaccacct tgataaagtt actaaagcca	300
agatgggtta caaagttaga taagttcatt aaattcaact ccccaaacaa ttacgtttat	360
ctatgatgcc taggcgagaa aggcctgtga atctataasg taggagaatg gggaactaag	420
attttaggcc ttaaaatatg ttggaa	446

<210> 7

<211> 295

<212> DNA

<213> Homo Sapiens

<220>

<221> modified\_base

<222> (1)..(295)

<223> n = a, c, g or t

<400> 7

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c c g t c a c t a g   g c t g c c a g a a   g a t c c t c c a a   g g a g c c a t c c   c a g a c c c a g t   g a t c t g c t g c   60
c a c t c a c a t t   g t g g c a g t g a   c a c t t c c a a a   g c a g c t a t t g   t a t t c t g g a g   c c t c c t g g a t   120
g a a c a t c a g c   t t t a t c a c c t   g g a g c c t g t t   a c a a a c g t a g   a a t c t t g a c c   t c a g c c c a g c   180
c c t a c t g a a t   c a g a g t c t a c   a t t t t t a a t g   a g a t c c c c a n   g t g a t t c g c a   a g c a c a t g a g   240
a g t t t g a g a a   g t g c t g t c t g   g t t a c t t a t g   g c a g c c t a a t   g a c g g t a a t c   g a a t t   295
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<210> 8

<211> 507

<212> DNA

<213> Homo Sapiens

<220>

<221> modified\_base

<222> (1)..(507)

<223> n = a, c, g or t

<400> 8

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t g c t g c a c n a   g t c a a t c a c a   n t t t g c a a c t   g c a a a a g a g g   c a t a a a c t g a   c g g g g a t c t c   60
c t g c t t t a c t   a t g c a c a c a c   a g c t t a a c t c   t c c a a c c g t g   g a g a a c a a c t   a a c t c t a t a n   120
g a a a a a t n a a   a a g n t a a a c t   n a a c c a t c c a   a g g a t g g g g g   n a a g g g c t t c   a t g g g t a a c t   180
t c t g g c c t g t   n a g c a c t a a a   t t n c a a a c t g   c t c c t g c a a g   a a a c c t n a a g   g g c t g g g a a g   240
g c t t t a t c t g   g c t c a a a a a c   t a a g g n t g c t   c t c n a a a g a a   t t c a a a t t c t   c c t c a a c a a n   300
c n a n a a a n a n   t k g t c a a t c c   a a t t c a a g g c   t c c c n t n a n a   t t g n a a g n a n   t t c c t n t n a a   360
c a a c a a c a a g   g t g a c t k a c t   y c t k c a a c a a   t y t a a a t t c c   c c c g g c s n c c   a t g g g g g g c n   420
g g a a a n a t s s   a a n t n t n g g c   c c a a t t t c c c   c a n a a t k a g t   c t t a t a a a a a   t c a c w g g g c g   480
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tcttttaaang tctkactggg naaaaac

507

<210> 9

<211> 256

<212> DNA

<213> Homo Sapiens

<220>

<221> modified\_base

<222> (1)..(256)

<223> n = a, c, g or t

<400> 9

ccatttcgtcc gtaggtccag gtgtttttacg tcagcagggg aatgtggcac acgccctcga	60
ggcatttttaa cactgcgctt caggaaatct caagttccat cttgtgttag taacgtaccc	120
acatttttgct ggagttagtt tattaaagat gcctacgggtg aactctctgg cgcagggttaa	180
atgcagttttt gaaaacctgg aaacatcaaa tggaggcggg aaataagctg gggccgagct	240
gaggggctga acacga	256

<210> 10

<211> 336

<212> DNA

<213> Homo Sapiens

<220>

<221> modified\_base

<222> (1)..(336)

<223> n = a, c, g or t

<400> 10

ttgtgcttaa aaaaataggc ttctcagtg aagcacctga taaamttagg tggttggatt	60
--	----

acagtggaaa gtccacttta cacacacaca caaacacaca aaaactggcg actttttcca	120
tccccaatcc ctgcamtgst gagacacaaa atgagttttw tggcaaagga tccttaatcc	180
ccagagacgc tttggcttgt ggtgcttttt tttttaaggc ctctctgctc tgcccggtag	240
catgggtcga acgaggggtg tataaaatgg gggccttggg aagcctccac ggtacagggc	300
tgcaggcccc tcagatgtga acacgacgac ctggga	336

<210> 11

<211> 442

<212> DNA

<213> Homo Sapiens

<220>

<221> modified\_base

<222> (1)..(442)

<223> n = a, c, g or t

<400> 11

tgtcagggat accgagagcc ggtgttctgt taacctctgg gaatggctct cccaatccta	60
ggccagttgg cctggggcca ggaccaaacc ccaatctgag atcaggcttt ttagggacaa	120
accctgcccc caggtcaggt gtgtttccag gcccaggcct tgggccaac ccaagaccaa	180
gtggcctggg cccaggccct aatctanatr ccagagcagg tggcctcttg ggcacaggat	240
ctggtcttaa cttaagaatg gctggacctc aaggcctoga tcttgcccc attctaagag	300
cagcaggtct ttaggagca aattcagctt ctttctcaca ggcttctgga aacatgggca	360
caagcccatc ctccatggca agagtacctg gcccctggg cccaaactcg ggtcctanct	420
ctcggtatcc ctgacaatcg aa	442

<210> 12

<211> 310

<212> DNA

<213> Homo Sapiens



<220>

<221> modified\_base

<222> (1)..(310)

<223> n = a, c, g or t

<400> 12

tcggatccac agagacctgc atgggaggtg gggccaacagg tctggtatca ggcaaaccta	60
ggttggaaca ctggctccat aaagaggaag tcacttaacc ttctctgggg catggtttct	120
tcattctgttc ccacctctga agactatcgt aagacagaat gaaagttaag caacttaacg	180
caacgcccag gataccagaa ttattctaaa tggcagaatc ctacttagtc tgtcatcttg	240
ggagttctct aggcaggcag gttgccaggg gtggggctga gatccagatg tgctctcggt	300
atccctgaca	310

<210> 13

<211> 536

<212> DNA

<213> Homo Sapiens

<220>

<221> modified\_base

<222> (1)..(536)

<223> n = a, c, g or t

<400> 13

tgacactagt cacgtggcag ggggttttat attgataatt gttgtgatga aattgatggc	60
ccctaagata nagganacac ctgctaggtg taaggagaan atggttaggt ctacggaggc	120
tccaggggtg gagtanttcc ctgctaaggg agggtaaact gttcaacctg ttctgctcc	180
ggcctcmact ataccaawtg cnaccaggat taggaaaaag gggggtaana tcaaacctt	240
atntntntta tgccgggaaa cncatatacg ggggcaccka ttattagggg aactattcat	300
ttccaaancc nccgattatg atgggtatta ctatgaanaa nattttacaa atgcatgggc	360
tgtgacaana acnttrtaaa tttgsnctta ccnaaaangt tncctgggyt ggcccanctc	420

ggctcnaaaa angagkctaa aactttttcct aagacnccac ctcatgcccc naaaaaaaag 480  
tanagtnttc caattttttt gtggnttgka aaaaaaatc aacggtcggs aaaawy 536

<210> 14

<211> 494

<212> DNA

<213> Homo Sapiens

<220>

<221> modified\_base

<222> (1)..(494)

<223> n = a, c, g or t

<400> 14

tcgacgctna gaggtagcat ttggagcgct ttcaggacga cggtgaaaat ggaaatatct 60  
tccaagaaaa tctagataga agcaatgtca gaaactttta tgtgatggat ctactcagct 120  
aacagagttg aacctttctt ttgagagagc agttttgcaa cactcttttt gtggaatatg 180  
caagtggata ttanggcagc tttgaggatt tcggttgaaa cgggaatata tgtaaaaagc 240  
agacagcagc attctcagaa acttctttgt gatgtttgca ttgaagtcac anagttnaac 300  
attccctttg agagagcaag tttgaaacac gccttttgtc atatctggaa gtgtccactc 360  
tcancgtcga atcgaantcc cgcnggcgcc atggngggcg ggagcatgcn actcngggcc 420  
aaatcgccct anantgagtc gtaatanaaa tcaactggccg tcgttttaca acgtctgact 480  
ggggaaaaac cccc 494

<210> 15

<211> 507

<212> DNA

<213> Homo Sapiens

<220>

<221> modified\_base

<222> (1)..(507)

<223> n = a, c, g or t

<400> 15  
atgnatacga ctcctatagg gcgaattggg cccgacgtcg catgctcccg gccgccatgg 60  
cggccgcggg aattcgatta ccgtcactag gctgccaaagt agctgggact acaggcgcat 120  
gccagcatgc ctggctaatt tttgtatatt tagtagagcg ggggttttgc catgttggcc 180  
aggctggtct tgaactcctg acctcaggtg atccgcctgc cctggcctcc caaagtgctg 240  
ggattacagg catgagccac tgcgccacgc cttgtaattt acctttgatg gtgacctgaa 300  
atgcagtatg atcctatatg tggcacgtag taatgttcag tgtttgctga attaattctg 360  
ggcagcctag tgacggtaat cactagttaa ttcgcggggc gcctgcaggt cgaccatatg 420  
ggagagctcc caacgccgtt ggatgcatag cttgagtatt ctatagtgtc acctaaatag 480  
cttgggccgt aatcatggtc atagctt 507

<210> 16

<211> 752

<212> DNA

<213> Homo Sapiens

<220>

<221> modified\_base

<222> (1)..(752)

<223> n = a, c, g or t

<400> 16  
agttagccgc agcgaagagg acccagcagg aatcatgagg gaaggaaaat gcagcactct 60  
aaatggccac tcaggcggtc ctattcactc ggaaaattag gttcatttca caggacacag 120  
cagtgtagat caggcttcaa cttaacattt aagggaatg tcagattttt ttttaattta 180  
atgaaattgt taatgaggaa aaatttttaa tatagtotta tctaccacac atccccatag 240  
atttaaggat tttaatatagaa agtcatgatg tatgtattca agccacgtta aaagaaaaaa 300  
tataactatg gaccgggtatt cagtgaatac agtttcatgg tttttaattc tttcaaaggc 360

acattaaaaa	tggtgtgctg	ataaacccca	agtaaattaa	ccctttttcc	gtataaatcc	420
atTTTTtTgt	ttgaagaggg	gaaattatat	ttattggttg	tttactggaa	tcttgggtgtg	480
gaaagcatat	cagatatgta	tgaactgcta	ctggctgtac	tttccgattt	acgggacatc	540
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taatggtnng	gcccttcaan	tggggattgg	gnccagtggc	ccttcaaggt	cttcttgggg	660
gattccgaat	ncacttnagt	ggaatttcnc	nggnccgcct	tgccaaggtc	ganccatntt	720
ngggaaaagc	ttccaaaccg	ccgtttggat	tc			752

<210> 17

<211> 739

<212> DNA

<213> Homo Sapiens

<220>

<221> modified\_base

<222> (1)..(739)

<223> n = a, c, g or t

<400> 17	
cctttntaaa	ccgacggcca
ttgaattgta	atacgactca
ctatagggcg	aattgggccc
	60
gacntctcat	gctcccggcc
gccatggcgg	ccgcgggaat
tcnattgtta	cagcaaccgc
	120
cagggggcct	tggccaggtc
aagggttctg	tgaggaaagg
acccangatt	gtgggggcat
	180
ttgggggggtg	aattggcccc
cnaaaaatgg	aaccacaccc
catagctctc	cccananctn
	240
atacggcatc	ctgcnaaaan
acctgccctc	ctcaactggga
ttccccttcc	gcctcctccc
	300
agggtctctgc	canggccttg
ctcaatccct	tcacccaaag
tcactctnaac	ttccttttcc
	360
ccagggcctc	canctgccct
caaacactga	tttntgtccc
caggtgctct	ctgcccctca
	420
ngcccctctc	ancggcccan
tgccccgact	ctccaggctt
tatcaagggtg	ctaaggcccg
	480
gggtgggcanc	tctctgtctc
aaagccctcc	tccggcctgg
tgctgccttt	acaaacacct
	540
gcaagaaaaan	ggcacggaaa
ccccaaagctt	taaagccctc
aacaagtctg	gtggatccga
	600
ancactaatg	aattcncggc
ccctgcang	tcnacaatat
nggaaanctc	ccaaccggtt
	660

tgatgcaaac ttgantttct atantgtcac ctaaattcctt ggggtaatca tggcaaaact 720  
 tttccctntt gggnnataa 739

<210> 18

<211> 261

<212> DNA

<213> Homo Sapiens

<220>

<221> modified\_base

<222> (1)..(261)

<223> n = a, c, g or t

<400> 18  
 actaggckga ccacaccaac taggatgwtc accacamccm ccaggatgac aatgaasctg 60  
 ataacaccaa atgcascmc agtkagcaca ntytctgacn tggggctggg cargatggtc 120  
 gcatcttccc tcawgtcar gstcawggtg gttgaattgg ggggaacart ttgaaatgtg 180  
 tctggggtac caatgctgga caaatggctt ggctgttaa cctctgagga agggatnttc 240  
 ctgggttgga anaaaactggc t 261

<210> 19

<211> 289

<212> DNA

<213> Homo Sapiens

<220>

<221> modified\_base

<222> (1)..(289)

<223> n = a, c, g or t

<400> 19

gctgcacgag	tcagtcacac	ttcgataatt	tggacaccta	gttcgtaata	gaagtcccc	60
acgcccagca	tctcagacca	aaatcctttt	ccagctacaa	gacagaaaaa	caaatctcg	120
gttattgatt	aatttacatc	ccttcttttc	tttcaaacct	gcattaaaac	atctatcaca	180
tgggaagtct	tcctgcatg	gcatgaagtt	cttctgctcc	atctgctact	caggaaacaa	240
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